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NOVEL 1,3,5-TRIS(ARYLAMINO)BENZENES

Field of the Invention

This application is a 371 of PCT/JP03/03752 filed 27 March 2002.

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This invention relates to novel 1,3,5-tris(arylamino)-
10 benzenes useful as organic semiconductors. More particularly,
the invention relates to novel 1,3,5-tris(arylamino)benzenes that
are superior in reversibility of oxidation-reduction process and can
form stable organic semiconductor film readily by a coating method
or a vacuum deposition method. Accordingly they are suitable for
15 use as organic semiconductors in a variety of electronic devices
such as electric charge transport agents in electrophotographic
devices or organic semiconductors in solar batteries.

Background Art

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In recent years, organic semiconductors comprised of
amorphous film of organic substances are in wide use in a variety
of electronic devices. For example, an organic amorphous film is
formed by preparing a coating composition comprised of a binder
25 resin such as polycarbonate resin and a low molecular weight
organic compound such as a triphenylamine derivative having
photoelectric function dissolved in a suitable organic solvent and
then by coating and drying the composition. The film thus formed
is used as a positive hole transport layer in electrophotographic
30 devices, as described in JP-A-1999-174707. Similarly, an organic
amorphous film is formed by preparing a coating composition
comprised of a so-called star-burst compound dissolved in a
suitable organic solvent and then by coating and drying the
composition. The film thus formed is used as an organic p-type
35 semiconductor film in solar batteries, as described in JP-A-2000-